UTAH CTE SKILL CERTIFICATION

AUTOMOTIVE SERVICE TECHNICIAN
STUDENT PERFORMANCE EVALUATION
ENGINE PERFORMANCE

Student Name: _____

The performance evaluation is a required component of the Skill Certification process. Each student **must be evaluated** on the required performance standards. Performance standards may be completed and **evaluated anytime during the course**.

- Students should be aware of their progress throughout the course, so that they can concentrate on the objectives that need improvement.
- Students should be encouraged to repeat the objectives until they have performed at a minimum of a number 1 or 2 on the rating scale (moderately to highly competent level).
  - 1= highly competent — Successfully demonstrated without supervision
  - 2= moderately competent — Successfully demonstrated with limited supervision
  - 3= limited competence — Demonstrated with close supervision
  - 4= not competent — Demonstration requires direct instruction and supervision
- When a standard has been achieved at a minimum of 80% (moderately to highly competent level). "Y" (Y=YES) is recorded on the last line of that standard, on the performance evaluation sheet. If a student does not achieve a 1 or a 2 (moderately to highly competent level), then "N" (N=NO) is recorded on the last line of that standard.
- All performance standards MUST be completed and evaluated prior to the written test.
- The **teacher** will bubble in "A" on the answer sheet for item #81 for students who have achieved "Y" on **ALL** performance standards.
- The **teacher** will bubble in "B" on the answer sheet for item #81 for students who have **ONE or more "N's"** on the performance standards.
- The signed performance evaluation sheet(s) **MUST** be kept in the teachers' file for two years.
- A copy is also kept on file with the school's ATE Skill Certification testing coordinator for two years.

Students who achieve a 1 or a 2 (moderately to highly competent) on **ALL** performance standards and 80% on the written test will be issued an ATE Skill Certificate.

	470604-01 Students will be able to understand general shop safety	**1**	**2**	**3**	**4**
	Pass the safety test with a score of 100%.				
	Identify the different types and hazards of solvents used in automotive.				
	Identify the different types, purposes, and hazards of automotive greases, oils, and additives.				
	Identify precautions in the use, handling, and storage of various automotive solvents, cleaners, oils, greases, and additives.				
	Identify the gasses encountered in the automotive field and the hazards they present.				
	Identify the hazards and control of asbestos dust.				
	Comply with safety rules for working with automotive chemicals (MSDS).				

The instructor must retain a copy of this Student Performance Evaluation for two years after the student has left the program.

Instructor Signature: _____ Date: _____

Student Signature: _____ Date : _____

School: _____

	470604- Students will be able to understand, identify, and properly diagnosis general engine systems.	**1**	**2**	**3**	**4**
	Complete work order to include customer information, vehicle identifying information, customer concern, related service history, cause, and correction. P-1				
	Identify and interpret engine performance concern; determine necessary action. P-1				
	Research applicable vehicle and service information, such as engine management system operation, vehicle service history, service precautions, and technical service bulletins. P-1				
	Locate and interpret vehicle and major component identification numbers (VIN, vehicle certification labels and calibration decals). P-1				
	Inspect engine assembly for fuel, oil, coolant, and other leaks; determine necessary action. P-2				
	Diagnose abnormal engine noise or vibration concerns; determine necessary action. P-2				
	Diagnose abnormal exhaust color, odor, and sound; determine necessary action. P-2				
	Perform engine absolute (vacuum/boost) manifold pressure tests; determine necessary action. P-1				
	Perform cylinder power balance test; determine necessary action. P-1				
	Perform cylinder cranking compression tests; determine necessary action. P-1				
	Perform engine running compression test; determine necessary action. P-2				
	Perform cylinder leakage test; determine necessary action. P-1				
	Diagnose engine mechanical, electrical, electronic, fuel, and ignition concerns with an oscilloscope and/or engine diagnostic equipment; determine necessary action. P-1				
	Prepare 4 or 5 gas analyzer; inspect and prepare vehicle for test, and obtain exhaust readings; interpret readings, and determine necessary action. P-1				
	Verify engine operating temperature; determine necessary action. P-1				
	Perform cooling system pressure tests; check coolant condition; inspect and test radiator, pressure cap, coolant recovery tank, and hoses; perform necessary action. P-1				
	Verify correct camshaft timing. P-2				

	470604-09 Students will be able to understand the importance of employability and work habits.	**1**	**2**	**3**	**4**
	Integrity				
	Punctuality				
	Staying on task				
	Productive team worker				
	Leadership				

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470604- Students will be able to understand, identify, and properly diagnosis and repair computerized engine controls.	1	2	3	4
Retrieve and record stored OBD I diagnostic trouble codes; clear codes. P-3				
Retrieve and record stored OBD II diagnostic trouble codes; clear codes when applicable. P-1				
Diagnose the causes of emissions or driveability concerns resulting from malfunctions in the computerized engine control system with stored diagnostic trouble codes. P-1				
Diagnose emissions or driveability concerns resulting from malfunctions in the computerized engine control system with no stored diagnostic trouble codes; determine necessary action. P-1				
Check for module communication (including CAN/BUS systems) errors using a scan tool. P-2				
Inspect and test computerized engine control system sensors, powertrain control module (PCM), actuators, and circuits using a graphing multimeter (GMM)/digital storage oscilloscope (DSO); perform necessary action. P-1				
Obtain and interpret scan tool data. P-1				
Access and use service information to perform step-by-step diagnosis. P-1				
Diagnose driveability and emissions problems resulting from malfunctions of interrelated systems (cruise control, security alarms, suspension controls, traction controls, A/C, automatic transmissions, non-OEM-installed accessories, or similar systems); determine necessary action. P-3				
Perform active tests of actuators using scan tool; determine necessary action. P-1				

470604- Students will be able to understand, identify, and properly diagnosis and repair an ignition system.	1	2	3	4
Diagnose ignition system related problems such as no-starting, hard starting, engine misfire, poor driveability, spark knock, power loss, poor mileage, and emissions concerns on vehicles with electronic ignition (distributorless) systems; determine necessary action. P-1				
Diagnose ignition system related problems such as no-starting, hard starting, engine misfire, poor driveability, spark knock, power loss, poor mileage, and emissions concerns on vehicles with distributor ignition (DI) systems; determine necessary action. P-1				
Inspect and test ignition primary circuit wiring and solid state components; perform necessary action. P-2				
Inspect, test and service distributor. P-3				
Inspect and test ignition system secondary circuit wiring and components; perform necessary action. P-2				
Inspect and test ignition coil(s); perform necessary action. P-1				
Check and adjust ignition system timing and timing advance/retard (where applicable). P-3				
Inspect and test ignition system pick-up sensor or triggering devices; perform necessary action. P-1				

470604- Students will be able to understand, identify, and properly diagnosis and repair fuel, air induction, and exhaust systems.	1	2	3	4
Diagnose hot or cold no-starting, hard starting, poor driveability, incorrect idle speed, poor idle, flooding, hesitation, surging, engine misfire, power loss, stalling, poor mileage, dieseling, and emissions problems on vehicles with injection-type fuel systems; determine necessary action. P-1				
Check fuel for contaminants and quality; determine necessary action. P-3				
Inspect and test fuel pumps and pump control systems for pressure, regulation, and volume; perform necessary action. P-1				
Replace fuel filters. P-1				
Inspect and test cold enrichment system and components; perform necessary action. P-3				
Inspect throttle body, air induction system, intake manifold and gaskets for vacuum leaks and/or unmetered air. P-2				
Inspect and test fuel injectors. P-1				
Check idle speed. P-2				
Inspect the integrity of the exhaust manifold, exhaust pipes, muffler(s), catalytic converter(s), resonator(s), tail pipe(s), and heat shield(s); perform necessary action. P-2				
Perform exhaust system back-pressure test; determine necessary action. P-1				
Test the operation of turbocharger/supercharger systems; determine necessary action P-3				

470604- Students will be able to understand, identify, and properly diagnosis and repair emission control systems.	1	2	3	4
Diagnose oil leaks, emissions, and driveability problems resulting from malfunctions in the positive crankcase ventilation (PCV) system; determine necessary action. P-2				
Inspect, test and service positive crankcase ventilation (PCV) filter/breather cap, valve, tubes, orifices, and hoses; perform necessary action. P-2				
Diagnose emissions and driveability problems caused by malfunctions in the exhaust gas recirculation (EGR) system; determine necessary action. P-1				
Inspect, test, service and replace components of the EGR system, including EGR tubing, exhaust passages, vacuum/pressure controls, filters and hoses; perform necessary action. P-1				
Inspect and test electrical/electronic sensors, controls, and wiring of exhaust gas recirculation (EGR) systems; perform necessary action. P-1				
Diagnose emissions and driveability problems resulting from malfunctions in the secondary air injection and catalytic converter systems; determine necessary action. P-2				
Inspect and test mechanical components of secondary air injection systems; perform necessary action. P-3				
Inspect and test electrical/electronically-operated components and circuits of air injection systems; perform necessary action. P-3				
Inspect and test catalytic converter performance. P-1				
Diagnose emissions and driveability problems resulting from malfunctions in the evaporative emissions control system; determine necessary action. P-1				
Inspect and test components and hoses of evaporative emissions control system; perform necessary action. P-2				
Interpret evaporative emission related diagnostic trouble codes (DTCs); determine necessary action. P-1				

470604- Students will be able to understand, identify, and properly complete an engine-related service.	1	2	3	4
Adjust valves on engines with mechanical or hydraulic lifters. P-1				
Remove and replace timing belt; verify correct camshaft timing. P-1				
Remove and replace thermostat and gasket. P-1				
Inspect and test mechanical/electrical fans, fan clutch, fan shroud/ducting, air dams, and fan control devices; perform necessary action. P-1				
Perform common fastener and thread repair to include, remove broken bolt, restore internal and external threads, and repair internal threads with thread insert. P-1				
Perform oil and filter changes. P-1				
Demonstrate proficiency in using oxy-acetylene torch to heat and cut metal. P-3				

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- [ ] Identify hybrid vehicle internal combustion engine service precautions. P-3